



PTO/SB/08A (08-03)

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

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| Application Number | 10/630,351 |
| Filing Date | July 30, 2003 |
| First Named Inventor | Andrew Gordon |
| Art Unit | 1723 |
| Examiner Name | Krishnan S. Menon |
| Attorney Docket Number | 8021-30 |

Sheet 1 of 1**U. S. PATENT DOCUMENTS**

| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|--|--------------------------------|--|---|
| | | Number-Kind Code ² (if known) | | | |
| KM | S | US- 3,171,808 | 03-02-1965 | Todd | / |
| | | US- 2002/0125190 A1 | 09-12-2002 | Bosley | |
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FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear | T ⁶ |
|--------------------|-----------------------|---|--------------------------------|--|---|----------------|
| | | Country Code ³ *Number ⁴ *Kind Code ⁵ (if known) | | | | |
| KM | | EP 0 959 048 A1 | 11-24-1999 | Nakamura et al. | / | |
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Examiner
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12/6/05

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| | | | | Application Number | 10/630,351 |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | Filing Date | 7/30/2003 |
| | | | | First Named Inventor | Gordon, et al. |
| | | | | Art Unit | 1723 |
| | | | | Examiner Name | Not yet assigned |
| Sheet | 1 | of | 4 | Attorney Docket Number | 37861/277592 |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|--------------------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number - Kind Code ² (if known) | | | |
| KCM | | US - 3,456,802 | 07/22/1969 | Cole | |
| | | US - 3,632,505 | 01/04/1972 | Nelson | |
| | | US - 3,841,976 | 10/15/1974 | Scott et al. | |
| | | US - 4,134,732 | 01/16/1979 | Jackson | |
| | | US - 4,335,576 | 06/22/1982 | Hopfe | |
| | | US - 4,452,696 | 06/05/1984 | Lopez | |
| | | US - 5,229,005 | 07/20/1993 | Fok, et al. | |
| | | US - 5,840,159 | 11/24/1998 | Rosenblad | |
| | | US - 5,997,737 | 12/07/1999 | Sturdevant, et al. | |
| | | US - 6,076,364 | 06/20/2000 | Stripp | |
| | | US - 6,185,940 | 02/13/2001 | Prueitt | |
| | | US - 6,348,148 | 02/19/2002 | Bosley | |
| | | US - 6,363,873 | 04/02/2002 | Thomas | |
| | | US - 6,375,842 | 04/23/2002 | Graham | |
| | | US - 2002/0060192 | 05/23/2002 | Max | |

| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|--------------------------|---|-----------------------------------|---|--|----------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ^o |
| | | Country Code ³ - Number ⁴ - Kind Code ⁵ (if known) | | | | |
| KCM | | CA 1050899 | 3/20/1979 | Izard et al. | | |
| | | GB 1 233 005 | 6/14/1967 | Kentfield | | |
| | | DE 19640460 | 4/9/1998 | Altmann | | |
| | | EP 1 199 098 A1 | 4/24/2002 | Bowler | | ✓ |
| | | WO 02/068338A2 | 9/06/2002 | Liberman et al. | | |

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|-----------------------|--------------------|--------------------|---------|
| Examiner Signature | <i>[Signature]</i> | Date Considered | 12/6/05 |
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| | | Filing Date | 7/30/2003 |
| | | First Named Inventor | Gordon, et al. |
| | | Art Unit | 1723 |
| | | Examiner Name | Not yet assigned |
| | | Attorney Docket Number | 37861/277592 |
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| NON PATENT LITERATURE DOCUMENTS | | | |
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| 10M | | PACENTI, P., et al., "Deployment of a submarine reverse osmosis desalination prototype plant (RODSS): field tests and preliminary technical evaluations," CAS Section -161; CAS Subsection - 004, Vol. 138, No. 1-3, pp. 181, 2001 Elsevier Science B. V., (Abstract Only) | |
| | | LAMPE, Harald, et al., "PCS - Preussag Conversion System. RTM. Mobile floating seawater desalination plant," CAS Section - 161; CAS Subsection - 004; Vol. 114, pp. 145-151, 1997 Elsevier Science B. V. | |
| | | YANG, YANZHOU, "RO Plants in Marine Desalination for ships and Submarines," SHUICHULI JISHU, 1994, Vol. 20, Iss. 2, pp. 105-109, CAS Section-161; CAS Subsection -004. | ✓ |
| | | GALLOWAY, M. et al. "UF for seawater RO pretreatment"; 2003, pp. 1-12, American Water Works Association Membrane Technology Conference. | |
| | | REALI, M., et al., "Submarine and underground reserve osmosis schemes for energy-efficient seawater desalination," Desalination, 1997, pp. 269-275, Vol. 109, No. 3, ENEL SpA (DSR-CRIS), Milano, Spain. | |
| ✓ | | PIZZINO, Joseph F., "Operation of a 2000 Gallon per day Reverse Osmosis Desalination System Aboard MONOB (YAG-610)", 1979, 28 pages, Citations from <i>Energy Science and Technology (DOE): EDB</i> . | |

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| ICM | | HUMPHRIES, J. R. et al., "A floating desalination/co-generation system using the KLT-40 reactor and Canadian RO desalination technology"; 2000, pp. 41-52. | |
| | | PANOV, Yu, "Equipment and materials for coupling interfaces of a nuclear reactor with desalination and heating plants based on floating NHPS," Nuclear heat applications: Design aspects and operating experience, IAEA-TECDOC-1056, Vienna (1995-1998), pp. 249-262. | |
| | | MITENKOV, F. M., et al., "Floating nuclear power - Desalination complex using a nuclear power plant of the KLT-40 type and the reverse osmosis process," 1997, pp. 255-268, IAEA, Vienna, Austria. | |
| | | PANOV, Yu., et al., "Use of reaction plants of enhanced safety for sea water desalination, industrial and district heating"; Conference Advisory group meeting on non-electric application of nuclear energy, Jakarta, Indonesia, 1997, pp. 281-293 Citations from <i>Engineering Index</i> ; <i>EIX</i> . | |
| | | PACENTI, Paolo, et al., "Submarine seawater reverse osmosis desalination system"; Conference Proceedings of the 1999 European Conference on Desalination and the Environment, Las Palmas, Spain, 1999, p. 213-218. | |
| | | PETERS, Thomas A., "Desalination of seawater and brackish water with reserve osmosis and the disc tube module DT"; Conference Proceedings of the 1999 WSTA Fourth Gulf Water Conference, Manama, Bahrain, October 10, 1999, p. 149-155. | |

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| ICM | | COLUMBO, D., et al., "Energy-efficient submarine desalination plant," Conference Proceedings of the 1998 International Workshop on Desalination Technologies or Small and Medium Size Plants with Limited Environmental Impact" Rome, Italy, 1999, pp. 171-176. | |
| | | VEGA, LUIS A., "Economics of ocean thermal energy conversion (OTEC)," IEEE Journal of Solid-State Circuits, 1992, pp. 152-181, Pacific Intl. Cntr. for High Technology Research, Honolulu, HI. | |
| | | PIZZINO, Joseph F., et al., "Reverse osmosis for surface ship desalination. An overview, Naval Engineers Journal, May, 1991, pp. 126-135, David Taylor Research Center, Annapolis, MD. | |
| | | VIGO, F., et al., "Suitability of reverse osmosis membranes for energy recovery by submarine osmotic power plants," Desalination, 1986, pp. 45-57, Vol. 60, No. 1, Inst. Ind. Chem. Univ. Genoa, Italy | |
| | | ROSE, C. D., "Current Design and application of marine evaporators," Marine Tech., Oct. 1983, Vol. 20, No. 4, pp. 348-355. | |
| | | "Desalination Ship" Pamphlet prepared by Advanced Environmental Water Technologies, Inc. | |
| | | PCT Search Report - mailed 07/09/2004 | |

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| Examiner Signature |  | Date Considered | 12/6/05 |
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